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AUTHOR Tjosvold, Dean; Johnson, David W.
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ABSTRACT

Forty-five undergraduates discussed a moral issue with a confederate who had the same opinion (no controversy) or opposite opinion (controversy). Subjects in the controversy conditions discussed within either a cooperative or a competitive context. Subjects in the controversy conditions indicated more conceptual conflict or uncertainty, engaged in more information-seeking behavior, and were more accurate in taking the cognitive perspective of the confederate than were subjects in the no-controversy conditions. These results support Piaget's and Kohlberg's views of the role of controversy in perspective-taking and cognitive development and Berlyne's theory of conceptual conflict and epistemic curiosity. Subjects in the competitive-context conditions experienced more uncertainty, engaged in more information-seeking behavior, and were more accurate in cognitive perspective-taking than were subjects in the cooperative-context condition. Subjects in the competitive-context condition also experienced more cognitive dissonance, derogated the confederate and the confederate's position and arguments to a greater extent, and indicated greater closed-mindedness in responding to the confederate and the confederate's arguments. (Author)

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Controversy and Cognitive Perspective-Taking

Dean Tjosvold

Division of Counseling and Educational Psychology

The Pennsylvania State University

University Park, PA 16802

David W. Johnson

University of Minnesota

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David W. Johnson

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Abstract

Forty-five undergraduates discussed a moral issue with a confederate who had the same opinion (no controversy) or opposite opinion (controversy). Subjects in the controversy conditions discussed within either a cooperative or a competitive context. Subjects in the controversy conditions indicated more conceptual conflict or uncertainty, engaged in more information seeking behavior, and were more accurate in taking the cognitive perspective of the confederate than were subjects in the no-controversy condition. These results support Piaget's and Kohlberg's views of the role of controversy in perspective-taking and cognitive development and Berlyne's theory of conceptual conflict and epistemic curiosity. Subjects in the competitive-context conditions experienced more uncertainty, engaged in more information-seeking behavior, and were more accurate in cognitive perspective-taking than were subjects in the cooperative-context condition. Subjects in the competitive-context condition also experienced more cognitive dissonance, derogated the confederate and the confederate's position and arguments to a greater extent, and indicated greater closed-mindedness in responding to the confederate and the confederate's arguments than did subjects in the cooperative-context or the no-controversy conditions.

Controversy Within a Cooperative or Competitive Context and Cognitive Perspective-Taking

The purpose of this study is to determine the effects of interpersonal controversy within a cooperative or a competitive context on the arousal of intrapersonal conceptual conflict and information seeking, and the resulting increased accuracy of cognitive perspective-taking. Cognitive perspective-taking, the understanding of the cognitive organization being used to structure a person's knowledge and reasoning, has been demonstrated to relate to cognitive development, moral reasoning, self-esteem, social intelligence, cooperation, communication effectiveness, problem-solving, and conflict resolution (Asch, 1952; Falk & Johnson, 1977; Flavell, 1968; Johnson, 1971, 1975a, 1975b, 1977; Kohlberg, 1969; Mead, 1934; Piaget, 1948, 1950; Rogers, 1951). It is one of the most important psychological competencies each person needs to develop. Cognitive development theorists (Flavell, 1963; Kohlberg, 1969; Piaget, 1948, 1950) have argued that it is repeated interpersonal controversies (discussions or disputes in which opposing opinions clash) that promote the ability to take accurately the cognitive perspective of others. Tjosvold & Johnson (1977) provide evidence that discussions with controversy, compared to those without, result in increased accuracy of cognitive perspective-taking. But the processes mediating such an effect and the conditions under which it occurs have not been empirically determined.

Almost all the research on perspective-taking has focused on documenting its consequences, ignoring the mediating processes and the situational variables affecting the accuracy with which a person takes the perspective of others. The mediating process examined in this study is based on the theorizing of Berlyne (1963, 1965). Berlyne states that receiving new information which does not fit with what one already knows or believes creates conceptual conflict (or subjective uncertainty) which, in turn, creates epistemic curiosity or the search for additional information. Within a controversy, the awareness that another person disagrees with one's conclusions and reasoning creates an internal incompatibility of ideas or an uncertainty as to which idea should be believed. This uncertainty will promote a search for additional information which will result in increased accuracy of cognitive perspective-taking. While this process seems theoretically valid, there is a need for empirical support.

Berlyne and the cognitive developmental theorists assume that the increased accuracy of perspective-taking will result in a cognitive restructuring to resolve the conceptual conflict. It is possible, however, that under certain conditions a person's conclusions and reasoning will be closed-mindedly adhered to, despite an increased undertanding of the opponent's cognitive perspective. Under such conditions a dissonance reduction process would be expected, in which the person derogates both the cognitive perspective of the opponent and the opponent himself as the source of the incompatible information. Since a competitive context, compared to a cooperative one, has been

shown to increase defensive adherence to one's own point of view (Deutsch, 1973; Johnson, 1971, 1974; Sherif, 1966), it may be hypothesized that when controversy takes place within a competitive context subjects will respond in a more closed-minded way, report greater feelings of dissonance, and derogate the cognitive perspective of the opponent and the opponent himself to a greater extent than will subjects involved in a controversy within a cooperative context or in a discussion containing no controversy.

The context in which the controversy occurs can also be hypothesized to affect the accuracy of cognitive perspective-taking. Blake and Mouton (1961) found that greater bias and misunderstanding occurred in comprehending another person's arguments and perspective in a competitive context compared to a cooperative one, and much of the research by Deutsch (1973), Sherif (1966), and Johnson(1971) indicates that the more competitive the situation, the less accurate comprehension of each other's arguments will be. Thus, it is expected that while controversy will promote greater accuracy of cognitive perspective-taking than will the absence of controversy, the effect will be greater within a cooperative than a competitive context.

Method

Subjects and Design

Forty-five male and female undergraduates were recruited from courses at The Pennsylvania State University to participate in this study. They were randomly assigned to conditions, fifteen in each condition. They

were given course credit for participating in the study and the opportunity to participate in a lottery to receive fifteen dollars. The hypotheses implied the creation of three conditions: No controversy, controversy within a cooperative context, and controversy within a competitive context. The t-test was used to compare differences among these conditions.

Independent Variable

The three conditions included in this study are controversy within a cooperative context, controversy within a competitive context, and no controversy. No-controversy was operationally defined as a trained confederate taking the same position as the subject as to how a moral dilemma taken from the Defining Issues Test (Rest, 1972) should be resolved. Controversy within a cooperative context was operationalized by having a trained confederate taking the opposite position from the subject as to how the moral dilemma should be resolved, under the instructions that the number of chances to win the fifteen dollars received for participating in the experiment depended on the subject and the confederate agreeing on a mutual position satisfactory to both. Controversy within a competitive context was operationally defined as a trained confederate taking the opposite position from the subject as to how the moral dilemma should be resolved, under the instructions that the number of chances the subject received to win the lottery depended on whether the mutual position agreed upon contained more of the subject's ideas than the confederate's.

Dependent Variables

There are four sets of dependent variables included in the study. The first pair dealt with accuracy of cognitive perspective-taking. The first operational measure consisted of having subjects indicate how the confederate would reason on another moral dilemma taken from the Defining Issues Test by picking from the list of twelve arguments the four the confederate would most likely use to support his position. The Defining Issues Test consists of a series of moral dilemmas to which a respondent indicates what the person caught in the dilemma should do and then indicates from a list of arguments which ones are most important in deciding what the person caught in the dilemma should do. The arguments are based on Kohlberg's (1969) stages of moral development. Each stage of moral development has a different underlying cognitive structure which is used to reach a decision as to how a moral dilemma should be resolved. The trained confederate consistently presented arguments based on a cognitive structure characterized by wanting to maintain social order through respect for authority, rules, laws, and the status quo (Stage Four in Kohlberg's hierarchy). Stage Four arguments were used because it was expected that subjects could (a) potentially understand this reasoning and (b) find it credible that a fellow student was using this reasoning. On the moral dilemma presented to the subjects to measure their ability to understand the perspective of the confederate, four of the twelve arguments were characterized by wanting to maintain social order. To the extent that

the subject was able to identify these four arguments as being the ones the confederate would use to reach a decision as to how the moral dilemma should be resolved, the subject was considered to understand the cognitive perspective of the confederate.

The second measure of cognitive perspective-taking accuracy consisted of giving the subjects a one-paragraph description of each of Kohlberg's stages two through six, and asking the subjects to indicate the stage reflecting the type of reasoning the confederate used during the discussion. To the extent that subjects choose stage four they were considered to have accurately taken the confederate's cognitive perspective.

The second pair of dependent variables are degree of conceptual conflict or uncertainty and information-seeking behavior. Uncertainty was measured by two 7-point items in the post-experimental questionnaire, one focusing on the degree to which the subjects felt informed by the confederate's presentation of her position and supporting arguments, and the other focusing on the degree to which the subjects believed they understood the confederate's arguments. Subjects' responses to the two questions were added together and then divided by two. Subjects who believed that the confederate's presentation was uninformative and believed that they did not understand the confederate's arguments were assumed to be highly certain of their initial position and to be experiencing little conceptual conflict. The measure of information-seeking behavior was the number of questions the subjects asked of the confederate, concerning the confederate's position and arguments.

The third set of dependent variables consisted of experienced dissonance and derogation of the confederate and her arguments. Experienced dissonance was measured by four semantic-differential items on the post-experimental questionnaire on which the subjects indicated on 7-point scales their degree of tenseness, worry, uncomfortableness, and unpleasantness. Derogation of the confederate was measured by a question on the post-experimental questionnaire on which the subjects indicated their liking for the confederate. Derogation of the confederate's arguments was measured by analyzing the incorrect attributions made on the measure of identifying the stage of reasoning underlying the confederate's arguments. Rest (1973) established that subjects prefer to see themselves as using higher stages of moral reasoning. The lower the stage of reasoning incorrectly attributed to the confederate, therefore, the greater the derogation of the confederate's arguments. Since the confederate used stage four arguments, the attribution of stage two or three reasoning to the confederate's arguments, compared to attributing stage five or six reasoning, was assumed to indicate derogation.

The final set of dependent variables focused on subjects' open-mindedness in responding to the confederate's position and arguments. On the post-experimental questionnaire subjects indicated on 7-point scales their willingness to make concessions to the confederate's position and arguments during the discussion, the perceived agreement between their arguments and the confederate's arguments, the extent to which they listened with an open mind to the confederate's arguments,

and the extent to which they perceived the confederate as listening to them with an open mind.

Procedure

The experiment was conducted in four phases: each subject individually decided what course of action should be taken in a moral dilemma, prepared for a discussion about the moral dilemma with a partner, discussed the moral dilemma with a person from another group, and was debriefed. Two subjects and two confederates (posing as subjects) were scheduled at each session. During the first phase the subjects were escorted to separate rooms and asked to read a moral dilemma and to decide what course of action should be taken by the person caught in the dilemma. The moral dilemma involved a doctor deciding whether or not to give a woman a drug to ease her great pain even though the drug might cause her to die more quickly. After each subject indicated a position, the experimenter returned to the rooms to learn what course of action each subject had decided the doctor should take.

To begin the second phase the experimenter escorted a confederate (posing as another subject) into the room and indicated that the subject and the confederate had reached the same opinion as to what the doctor should do. The experimenter informed the subject that there was another pair of subjects participating in the experiment, and that during the next phase one member of each pair would participate in a discussion about the moral issue. In the no-controversy condition each subject was verbally told and given written instructions stating that the other pair of subjects had the same position as the subject did, and that

the subject could win up to five chances in the lottery if a mutually acceptable agreement was reached in the discussion with the person from the other pair. In the cooperative-context condition each subject was verbally told and given written instructions stating that the other pair of subjects had the opposing position as to how the doctor should behave, and that the subject could gain up to five chances in the lottery if a mutually acceptable agreement was reached in the discussion with the person from the other pair that incorporated the best arguments from both sides. In the competitive-context condition each subject was verbally informed and given written instructions stating that the other pair of subjects had taken the opposing position as to what the doctor should do, and that the subject could gain up to five chances in the lottery by convincing the person from the other pair that the subject's position was the right one and getting the other person to agree fully with the subject's position. The emphasis in this condition was on winning the discussion and avoiding losing. Each subject was also given the following set of written instructions:

> The research in which you are to participate studies three types of behaviors: (1) the group planning of a common position, (2) the behavior of group representatives who meet with each other to discuss an issue, and (3) the group evaluation of any joint statement made by these representatives. The research session is divided into three corresponding parts which are outlined below.
>
> Part 1: Your group has 10 minutes to develop your group's position. You should prepare yourself and your partner as well as

possible for the meeting with the representative from the other group This can be done by (1) summarizing the most important points, (2) arriving at any new arguments you can that support your group's position, and (3) giving each other any advice you have about the meeting with the representative from the other group. Near the end of this part one person will be chosen by chance to represent the group in the discussion, while the other person will observe and evaluate the discussion.

A briefing sheet has been given to you to facilitate your preparation for the intergroup discussion in a short amount of time.

Part 2: This part will last up to 20 minutes. The representative from each group will meet to discuss the issue. The meeting will have the following procedure: (1) each person presents his position and the arguments that support his position in about two minutes: (2) the discussants then discuss freely for the rest of the first twelve-minutes; (3) the experimenter will have each person complete a short questionnaire; (4) the representatives will then have another eight minutes in which to try to write a joint statement.

Part 3: During this part you will meet with your partner to discuss any joint statement reached with the representative from the other group. The observer will share his evaluation of the representative's performance in the discussion.

In the second phase a briefing sheet was also given to the subject and the confederate outlining several arguments (representing all of Kohlberg's stages except for the first) to help them prepare for the

discussion with a member of the other pair. At the end of the second phase the subject and the confederate completed a short questionnaire measuring their commitment to their position and their personal involvement in the moral dilemma. The experimenter then conducted a drawing in which the subject was chosen to represent the pair in the discussion with the representative from the other group. The subject was informed that the confederate would be observing the discussion and evaluating the subject's performance on how well the inter-group discussion went.

During the second phase the confederate's role was to ensure that the subject understood the instructions, was prepared for the intergroup discussion, was committed to the group's position, and was personally involved in the dilemma and situation. The confederate did not suggest any arguments that were not on the briefing sheet, but encouraged the subject to develop and use new arguments and to discard any arguments on the briefing sheet the subject did not believe in.

In the third phase the confederates exchanged rooms and each was introduced as the representative from the other group. The subject was instructed by the experimenter to present his position first. After twelve minutes, the experimenter reentered the room, separated the subject and the confederate, and administered the post-experimental questionnaire. This ended the experiment and the subjects were then fully debriefed, thanked, and given course credit for participating in the study. After all subjects had been run, a public drawing was held to determine which subject won the lottery of fifteen dollars.

In the third phase the confederate's role was to present a detailed script based on a reasoning process emphasizing maintaining social order through respect for authority, rules, and the status quo (stage four in Kohlberg's theory). They discussed the dilemma in a standard, nonexcited manner. In their opening presentation, they mentioned four major arguments.

In the free discussion period, they elaborated on their arguments in a standard way whenever the subject requested that they do so.

Confederates

Six female undergraduates were used as confederates. They were given 15 hours of training in how to induce subject commitment and involvement in the experimental situation and in how to present two detailed scripts (one pro and one con) concerning the moral dilemma discussed in a standard manner. All confederates were trained to say the same thing using similar language, syntax, and length, except for the differences required by the operationalizations of the independent variables. The confederates were observed piloting four subjects each to ensure their competence in fulfilling the confederate's role. Each confederate was used in all three conditions.

Induction Checks

The results of the induction checks given at the end of the second phase indicate that all subjects were committed to their position and were personally involved in the moral dilemma. There were no significant differences among conditions on these measures and, therefore, the means are not presented.

Results

The results in Table 1 indicate that subjects in both the cooperative and competitive controversy conditions are more accurate in predicting the arguments that the opponent would use in another moral dilemma and in identifying the stage of moral reasoning represented by the opponent's arguments than are subjects in the no-controversy condition.[1] Subjects in the competitive-context condition, furthermore, were more accurate in predicting the arguments the opponent would use in another moral dilemma than were the subjects in the cooperative-controversy condition.

A second pair of dependent variables focuses on the subjects' feelings of uncertainty and the number of questions they asked their opponent. From Table 1 it may be seen that the subjects in the cooperative-context condition feel less certain than do subjects in the no-controversy condition, while subjects in the competitive-context condition feel less certain than do subjects in either the cooperative-context or no-controversy conditions, and they ask more questions than do the subjects in the no-controversy condition.

The third set of dependent variables deal with the subjects' feelings of dissonance and their efforts to reduce their dissonance. The data in Table 1 indicate that subjects in the competitive-context condition feel more uncomfortable, tense, worried, and unpleasant than do subjects in the other two conditions. The stage of reasoning attributed to the opponent's arguments by subjects who incorrectly identified the opponent's stage varies systematically, with subjects in the competitive-context

condition attributing a lower stage of reasoning to the opponent's arguments than do the subjects in the other two conditions and the subjects in the cooperative-context condition attributing a somewhat lower stage of reasoning than did the subjects in the no-controversy condition. Subjects in the competitive-context condition like the opponent less than do subjects in the other two conditions.

The fourth set of dependent variables focuses on the subjects' open-mindedness in responding to the opponent's arguments. From Table 1 it may be seen that subjects in the competitive-context condition are less willing to make concessions than are subjects in the cooperative-context or the no-controversy conditions, and perceive less agreement between themselves and their opponent than do subjects in the other two conditions. Subjects in the cooperative-context condition perceive less agreement between themselves and their opponent than do the subjects in the no-controversy condition. Subjects in the competitive-context condition see themselves and their opponent as being more closed-minded in listening to each other than did the subjects in the other two conditions.

Discussion

One of the most important aspects of social interaction and cognitive functioning is accurately viewing situations and problems from the perspective of others as well as from one's own perspective. Cognitive developmental theorists have posited that it is through repeated interpersonal controversies that the ability to take the perspective of others is

acquired, and the results of this study support such a contention. Subjects in the two controversy conditions were more accurate in taking the cognitive perspective of the opponent than were subjects in the no-controversy condition.

The findings of this study also support Berlyne's notions that controversy leads to conceptual conflict or uncertainty. Both controversy conditions resulted in greater feelings of uncertainty than did the no-controversy condition, and controversy within a competitive context created greater feelings of uncertainty than did controversy within a cooperative context, as well as more information seeking behavior and more accuracy in taking the cognitive perspective of the opponent. These findings, however, do not mean that controversy will be more productive within a competitive context. Although Berlyne and the cognitive developmental theorists seem to assume that the greater the conceptual conflict, the greater the information-seeking behavior, the greater the accuracy of cognitive perspective-taking and, consequently, the more the reorganization within a person's cognitive structures, the results of this study do not support such an assumption. When controversy occurs within a competitive context a closed-minded orientation is created in which people comparatively feel unwilling to make concessions to the opponent's viewpoint, perceive a high level of disagreement between themselves and their opponent, view themselves as being closed-minded in listening to their opponent, and view their opponent as listening closed-mindedly. Thus an important modification of Berlyne's and the cognitive developmental theorists' theories are that increased accuracy of perspective-taking may not always result in cognitive reorganization; within a com-

petitive context the increased understanding resulting from controversy may tend to be ignored for a defensive adherence to one's own position. The implications of this study are that it is when controversy occurs within a cooperative context that the increased accuracy of cognitive perspective-taking might be expected to be utilized in reformulating one's perspective and reasoning process.

The results of this study also have important implications for the current theorizing on the effects of a cooperative and competitive context on communication. While the results of much of the research on communication within conflict situations indicates that a competitive context would result in distortion and misunderstanding of the opponent's cognitive perspective, the opposite was found in this study. There was a tendency for subjects in the competitive-context condition to be more accurate in cognitive perspective-taking than were the subjects in the cooperative-context condition. There are two possible explanations for this finding. The first is that perhaps there was no conceptual conflict aroused in the previous research studies and, therefore, no information seeking and increased understanding. The second is that competitive-contexts may affect the incorporation of the opponent's arguments but not the comprehension of them. The results indicating a comparatively closed-minded orientation by subjects in the competitive-context condition imply the latter explanation may be valid. Such an implication is supported by Rokeach & Vidulich's (1960) finding that closed-minded subjects did not differ from open minded subjects in ability to analyze problems so that both groups of subjects accurately comprehended the information

needed to solve the problem being worked on, but the closed-minded subjects were less able to synthesize the results of their analyses into their cognitive structures to derive the correct solutions.

Dissonance theory (Festinger, 1957) would predict that in a discussion incoming information that challenges one's position would be derogated, along with its source, in an attempt to resolve any uncertainty created by the incoming information. The results of this study support such a contention. Subjects in the competitive-controversy condition, compared with subjects in the other two conditions, reported greater feelings of uncertainty and dissonance, and they derogated both the opponent and the quality of the opponent's arguments and perspective. Taken together, these results imply that when controversy occurs within a competitive context dissonance will be experienced, resulting in attempts to resolve it by discounting the opponent and the opponent's position. When controversy takes place within a cooperative context, however, such processes will tend not to occur.

Although conflict theorists such as Deutsch (1973) and Johnson & Johnson (1975) continually emphasize the potential positive consequences of conflict, there is little evidence actually demonstrating that conflict can result in constructive outcomes. The results of this study do provide evidence to support their claims.

There are several important implications for education of the results of this study. First, to promote students' learning as well as their social and intellectual development, teachers may wish to encourage controversies among students as a usual aspect of instructional situations.

Such controversies will tend to create conceptual conflict within students, increase their information seeking behavior, and result in increased accuracy of cognitive perspective-taking. If learning and change in cognitive structures are desired, the controversies should probably take place within a cooperative context. Thus cooperative learning groups might be advisable whenever controversy arises. Teachers may expect controversies within a competitive context to tend to promote a closed-minded orientation and a dissonance reduction process that in all likelihood tend to impair learning. In order to create controversies that result in meaningful learning, furthermore, teachers may wish to ensure that cooperative learning groups are heterogeneous in the sense that students with different cognitive perspectives and reasoning processes are included in each group.

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Table 1

Comparison of Means for Perspective-Taking and Perceptions of Opponent and Experience

Variable	Cooperative Controversy	Competitive Controversy	No Controversy	t-Values[a]
Accuracy of Reasoning Identification	1.73	2.53	1.07	Coop vs. No, 1.71* Coop vs. Comp, 1.87* Comp vs. No, 3.97***
Accuracy of Stage Identification	0.40	0.60	0.00	Coop vs. No, 306*** Comp vs. No, 4.58***
Subjective Certainty	4.93	3.07	5.80	Coop vs. No, 1.70* Coop vs. Comp, 3.79*** Comp vs. No, 5.59***
Number of Questions Asked	3.33	4.53	2.73	Comp vs. No, 2.77***
Dissonance Experienced	5.48	4.18	5.25	Coop vs. Comp, 2.93*** Comp vs. No, 2.47**
Incorrect Stage Identified	5.22	3.67	5.73	Coop vs. No, df=22, 1.76* Coop vs. Comp, df=13, 2.45** Comp vs. No, df=19, 4.94***
Liking for Other	5.53	4.13	5.94	Coop vs. Comp, 2.63** Comp vs. No, 3.41***
Willingness to Make Concessions	4.87	3.67	5.60	Coop vs. Comp, 1.65[b] Comp vs. No, 3.04***

Table 1 (continued)

Variable	Cooperative Controversy	Competitive Controversy	No Controversy	t-Values[a]
Perceived Agreement With Other	3.53	1.27	6.80	Coop vs. No, 7.88*** Coop vs. Comp, 5.43*** Comp vs. No, 34.72***
Own Open-Mindedness Listening to Other	6.27	5.34	6.40	Coop vs. Comp, 1.91* Comp vs. No, 2.42**
Other's Open-Mindedness Listening to Subject	6.01	2.40	6.47	Coop vs. Comp, 6.42*** Comp vs. No, 8.39***

[a] $_{df}$ = 28 unless otherwise noted

*p < .10; **p < .05; ***p < .01 [b] p < .12

Footnote

[1] Several t-tests were used to compare the hypothesized differences among the conditions. Since this procedure increases the probability of type I error, the reader may want to use a more stringent .01 significance level to evaluate the results.